

DRAFT SECTION C: DESCRIPTION/SPECIFICATIONS/STATEMENT OF WORK

TITLE - TASK ORDER CONTRACT, ENGINEERING SUPPORT (TOCES) DRAFT

C.1.0 SCOPE.

C.1.1 BACKGROUND.

C.1.1.1 The U.S. Army Edgewood Chemical Biological Center (ECBC), with its headquarters at the Edgewood Area, Aberdeen Proving Ground, Maryland (APG-EA) is a subordinate activity of the U.S. Army Materiel Command (AMC). The center is primarily responsible for the conduct and management of research, development and life cycle engineering of chemical and biological defensive systems such as chemical/biological agent detection and protective measures.

C.1.1.2 The Engineering Directorate of ECBC is comprised of three business units: Acquisition Management, Engineering Services, and Homeland Defense. The Engineering Directorate develops and improves transitioned technologies and proves out those technologies, resulting in the production of end items that are fielded to the joint forces to increase operational effectiveness on the battlefield. State of the art engineering capabilities such as Computer Aided Engineering (CAE)/Computer Aided Design (CAD)/Computer Aided Modeling (CAM) toxic/environmental tests chambers are used to facilitate development and production activities.

C.1.1.2.1 The Engineering Directorate's Homeland Defense Business Unit (HLDBU) has been formed to enhance the capabilities of military, federal, state and local emergency responders. The Homeland Defense Program complements the already successful execution of the Domestic Preparedness Program with NBC installation preparedness and technical assistance. The HLDBU supports emergency preparedness and response in a variety of elements throughout ECBC and SBCCOM.

C.1.1.2.2 The culmination of these distinct areas of support will require intense integration of Service and command-level requirements through research and development, studies and analyses, planning, organizational support, reporting, training requirements, simulation of Weapons of Mass Destruction (WMD) incidents and emergency response, and database development and professional services and support.

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C.1.2 Objective. The objective of this contract is to provide the ECBC Engineering Directorate with engineering, development, technical management, and administrative support for the execution of its assigned programs. The TOCES will also be used to support Engineering Directorate partners such as the Assembled Chemical Weapons Assessment (ACWA) Program and the PM NBC Defense Systems.

C.2 APPLICABLE DOCUMENTS. Any documents listed in this section form a part of this contract to the extent invoked by specific reference in other paragraphs of this contract. If a document is referenced without indicating the specific paragraph as being applicable, then the document is applicable in its entirety, or as specified in the individual task order. (Documents pertaining to safety, security and capability requirements are included in Section H. Additional documents will be included in individual task orders as applicable.)

C.3 REQUIREMENTS. The contractor, as an independent contractor and not as an agent of the Government, shall provide the necessary resources (except those furnished by the Government) to accomplish tasks of the type set forth below.

C.3.1 General.

C.3.1.1 Contractor personnel may be required to work on-site at the Edgewood Chemical Biological Center (ECBC), Aberdeen Proving Ground, or other locations for extended periods of time or on a full-time basis since the nature of the work requires specialized facilities, equipment and procedures. Contractor personnel may be required to travel within and outside the continental United States (CONUS and OCONUS).

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C.3.1.2 Except where otherwise specified in an individual task order, for contractor personnel working on-site, the contractor shall appoint a Program Manager, who will be provided an office on-site and who shall have authority over and responsibility for their contractor personnel. In the absence of the Program Manager, an Alternate shall be appointed by the contractor to serve as Program Manager.

C.3.1.3 Except as specified in an individual task order, the contractor shall be responsible for purchasing its supplies and equipment needed for the conduct of the contract work. The contractor may be responsible for providing its own utilities and/or facilities at some work sites.

C.3.1.4 The contractor shall comply with the safety requirements included in Section H and as specified in the individual task order.

C.3.2 Detail Tasks.

C.3.2.1 Acquisition Program Support. The Acquisition Program Support Business Unit encompasses the areas of design, logistics, packaging, producibility, and provisioning. The contractor shall:

C.3.2.1.1 Survey the market for new technologies, new materials or new methods to detect, monitor, identify, protect and decontaminate against chemical and/or biological (CB) agents. Market surveys shall also include identification of new technologies, materials and methods to produce and disseminate obscuring or riot control substances, or to simulate CB agents, decontamination materials, and smoke or riot control substances.

C.3.2.1.2 Identify and test the performance of material against CB agents, detection materials, decontamination materials, smoke producing materials, riot control substances, or simulants.

C.3.2.1.3 Analyze and identify the reactions, mechanisms and dynamics which impact upon material design; and seek materials that are compatible with CB agents, detection materials, decontamination material, smoke producing material, riot control substances or simulants.

C.3.2.1.4 Perform systems analyses to identify alternative concepts and solutions for CB defense requirements.

C.3.2.1.5 Collect and analyze performance data (e.g., to develop and verify engineering models of CB defense equipment).

C.3.2.1.6 Conduct statistical analyses of experimental data (e.g., to determine significance of measured effects and associated confidence levels).

C.3.2.1.7 Apply state-of-the art analytical techniques to theoretical and empirical data (e.g., to develop, refine, and verify detection and identification algorithms for chemical and/or biological detection equipment and systems).

C.3.2.1.8 The contractor shall participate in development of engineering scopes of work, in planning and executing engineering projects.

C.3.2.2 Engineering Design. The contractor shall:

C.3.2.2.1 Develop engineering drawings, specifications, quality assurance requirements, operational documentation, maintenance documentation, training documentation, safety documentation, or environmental documentation. Develop and analyze engineering change proposals.

C.3.2.3 Acquisition Logistics Support (ALS). The contractor shall:

C.3.2.3.1 Establish and conduct a logistics program to address the elements of supportability to include maintenance planning; manpower and personnel; supply support; support equipment, including test, measurement and diagnostic equipment (TMDE); technical data (Government publications, i.e. technical manuals, Modification

Work Orders); training and training support; computer resources support; facilities; packaging, handling, storage and transportation; system interface; and peacetime disposal.

C.3.2.3.2 Perform Logistic Support Analysis (LSA) for all developed and modified hardware and software interfaces and components down to the piece part level for a Government system/equipment.

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C.3.2.3.3 Generate, develop, document, maintain, and continually update Logistics Management Information (LMI) for a Government system/equipment.

C.3.2.4 Provisioning and Supply Support. The contractor shall:

C.3.2.4.1 Prepare or update provisioning plans to identify provisioning objectives and actions to achieve essential provisioning management. Perform initial provisioning actions to identify repair and spare parts. Screen the DOD repository of National Stock Numbers (NSN) through Defense Logistics Service Centers (DLSC) to identify NSN's. Perform post-provisioning actions to review repair and spare part usage and adjust for future stockage level of those parts.

C.3.2.4.2 Prepare Provisioning Parts Lists (PPLs) for a Government system/equipment.

C.3.2.4.3 Prepare Technical Publications and/or Equipment Publications in accordance with Military Standards, Regulations, and Handbooks (as identified in the individual task orders). These include but are not limited to Technical Manuals, Depot Maintenance Work Requirements, and Modification Work Orders. Prepare various types of illustrations, such as line art, digital photographs, half-tone, or continuous tone illustrations to support these Equipment Publications. Prepare various Technical Manual plans to support scheduling, developing, validating, and verifying Equipment Publications.

C.3.2.4.4 Develop and conduct a training program to include New Equipment Training (NET) services, instructional materials, and documentation, devices, accessories, aids, equipment and parts used to facilitate instructions through which personnel will acquire concepts, skills and aptitudes to operate and maintain a Government system/equipment with maximum efficiency.

C.3.2.4.5 Perform a Failure Modes, Effects, and Criticality Analysis (FMECA) on a Government system/equipment. The contractor shall perform Reliability-Centered Maintenance (RCM) analysis on a Government system/equipment. The contractor shall conduct a Logistics and Maintainability Demonstration on a Government system/equipment.

C.3.2.4.5 Identify common Support Equipment and Test, Measurement, and Diagnostic Equipment (TMDE) needed to maintain a Government system/equipment.

C.3.2.4.6 Coordinate and integrate all activities related to Human Systems Integration (HSI) (manpower, personnel, training, human factors, and system safety, and health factors), identify design and performance issues, and develop and implement solutions.

C.3.2.4.7 Perform maintainability programming and analyses. Prepare maintenance plans based on data derived from supportability analyses and LMI or as provided by the government. Identify and document requirements for support equipment and Test, Measurement and Diagnostic Equipment (TMDE). Conduct reliability centered Maintenance (RCM) studies and prepare preventive maintenance checks and services (PMCS) tables based on the results derived. Prepare depot maintenance studies. Prepare and update System Support Package Component Listing (SSPCL's) using either LMI data, or other documentation.

C.3.2.5 System Design and Process Improvement. The contractor shall:

C.3.2.5.1 Evaluate system design in relation to operational use and performance requirements. Identify changes to the design with supporting rationale and documentation to improve operation and performance of the system.

C.3.2.5.2 Develop processes for chemical or biological compounds, antibody synthesis and refinement, detection

material, decontamination material, smoke producing material, riot control material or simulants.

C.3.2.5.3 Develop flow, piping, and instrumentation designs for process equipment. Determine material and energy balances for pilot production facilities and equipment.

C.3.2.5.4 Prove out flow, piping and instrumentation through synthesis of materials.

C.3.2.5.5 Assess manufacturing and production methods for chemical, biological, and smoke systems. Identify improvements in manufacturing and production methods by use of such things as alternate processes, materials, dimensioning methods, and inspection or testing methods. Investigate and propose alternate item configurations to maximize the use of commercial modular hardware, standard and interchangeable parts. Identify and assess the benefits of alternate sources, material, and item configurations.

C.3.2.5.6 Develop and prove out inspection and acceptance test plans, procedures or equipment for CB agents, detection materials, decontamination material, smoke producing material, riot control substances or simulants for manufacturing.

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C.3.2.7 Packaging. The contractor shall:

C.3.2.7.1 Design and document military packaging requirements (using special packaging instructions or other documents), including unit packing, packing, marking and unitization for any item entering the military distribution system.

C.3.2.7.2 Provide input and guidance for any item to achieve reduced footprints and packaging costs.

C.3.2.7.3 Develop packaging requirements to protect the item against environmental and physical conditions encountered by military equipment during shipment and storage, and in accordance with requirements documents (i.e., performance specifications, statements of work, test procedures).

C.3.2.7.4 Document and validate requirements through testing to meet requirements documents. Base the degree of protection on the item, its source, destination, storage and mode of transportation.

C.3.2.7.5 Utilize advanced packaging technology or innovative methods and materials for preservation, cushioning and storage, to enhance performance and reduce cost. Consider use of commercially available materials that meet military requirements.

C.3.2.8 Software Support. The contractor shall:

C.3.2.8.1 Perform independent verification and validation (IV&V) testing of software systems and components.

C.3.2.8.2 Review IV&V plans, software test plans, software test descriptions, and software test reports.

C.3.2.8.3 Witness software testing performed by a system developer.

C.3.2.8.4 Develop IV&V test support tools and validate test support facilities.

C.3.2.8.5 Develop software and documentation in support of equipment.

C.3.2.8.6 Review documents such as the Software Requirements Specification, Interface Requirements Specification, Software Design Document, Interface Design Document, and Software Product Specification to determine if the contents meet the requirements of the specific program goals.

C.3.2.8.7 Develop and maintain computer programs and information databases for administration,

chemical/biological projects and treaty verification.

C.3.2.8.7.1 Perform parameter estimation for these programs and databases.

C.3.2.8.7.2 Survey and assess information contained in U.S. Government agency and contractor-maintained databases to generate new and modify existing databases.

C.3.2.8.7.3 Perform system evaluation and characterizations for CB projects, smoke projects, treaty verification work and alternate technologies work.

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C.3.2.8.8 Develop, update and maintain internet and intranet web services to include static and interactive WEB pages, database access and website hosting.

C.3.2.8.8.1 Comply with the DOD and agency-specific regulations and policies pertaining to government-owned websites and databases. The contractor shall coordinate with the Government to obtain approval from the agencies' security and public affairs officials.

C.3.2.9 Engineering Services. The Engineering Services Business Unit encompasses the areas of computer aided engineering, data management, fabrication, packaging, pyrotechnics, standards and specifications and test. The contractor shall:

C.3.2.9.1 Fabricate new or modify existing prototype hardware in support of engineering efforts.

C.3.2.9.2 Modify fielded Army equipment or materiel in accordance with approved Modification Work Orders.

C.3.2.9.3 The contractor shall design, modify and/or prepare Computer-Aided Design drawings for complex systems and components in support of a wide variety of engineering development projects. The required engineering effort shall involve mechanical design, stress analysis and preparation of shop fabrication drawings and specifications. The contractor shall manage or support tasks as a member of a project team, analyze technical requirements, perform design studies, and prepare designs for prototype equipment or prototype models.

C.3.2.10 Testing. The contractor shall:

C.3.2.10.1 Design tests, prepare test plans, prepare test support documentation, document test results and evaluations and prepare test reports.

C.3.2.10.2 Test the performance and operational characteristics of material; conduct operational, developmental, environmental, reliability, human factors, logistical teardown, maintainability demonstration, or demonstration tests on material.

C.3.2.10.3 Perform inspections and acceptance testing on materiel. Prepare Inspection and Acceptance Test Reports and Certification Data/Reports.

C.3.2.10.4 Perform tests on human subjects in accordance with the Government-approved protocol. (A sample protocol format is provided in Section J.)

C.3.2.10.5 Provide test support for development hardware undergoing Government or contractor testing.

C.3.2.10.6 Perform end of test tasks, such as inventory, inspection, or performance testing of production hardware. Conduct or observe inspection upon receipt of material during fielding of equipment.

C.3.2.10.7 Inspect or test the reliability of stocked items and components throughout the life cycle.

C.3.2.11 Environmental. The contractor shall:

C.3.2.11.1 Conduct studies and make recommendations on management-related areas, such as effective team management, optimal organization, correlation of Engineering Directorate missions and assets, organization performance criteria, and empowerment of the workforce.

C.3.2.11.2 Organize and facilitate workshops, seminars, symposia, and meetings. Develop and provide advance planning and read-ahead packages. Conduct workshops or presentations.

C.3.2.11.3 Collect data and prepare, review and revise responses to higher headquarters taskers.

C.3.2.11.4 Provide program management support to technical reviews, symposia, and technical meetings. Provide responses to technical review issues or question. Provide administrative support to include preparation of briefing packages, audio-visual aids, handouts, technical reports, and other written materials.

C.3.2.11.5 Prepare, review, analyze, or propose changes to risk analysis and environmental documentation, including documentation of comments on permits as required by the various federal, state and local agencies associated with material transportation, handling, processing, and disposal. Perform compliance inspections and reviews to ensure technical accuracy and completeness of documentation.

C.3.2.11.6 Examine records or perform physical inspections of accountable project property and provide recommendations for disposition of those items under utilized. Prepare documentation indicating the acquisition cost, serviceability, and other data necessary for disposal or transfer. Establish inventory control and management procedures for the use of material, equipment and hand tools.

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C.3.2.11.7 Prepare, edit, and finalize technical reports, manuscripts, annual reports, and other technical documents, including briefing materials.

C.3.2.12 Homeland Defense Business Unit (HLDBU). In support of the HLDBU mission, the contractor shall:

C.3.2.12.1 HLDBU Training and Exercises.

C.3.2.12.1.1 Coordinate and facilitate training workshops, exercises and equipment demonstrations.

C.3.2.12.1.2 Develop training courses for NBC incident response and emergency preparedness and NBC equipment.

C.3.2.12.1.3 Perform NBC training and exercises to sites worldwide

C.3.2.12.1.4 Develop tabletop exercises for NBC incident response

C.3.2.12.1.5 Develop field exercises for NBC incident response

C.3.2.12.2 HLDBU Testing and Assessments. The contractor shall:

C.3.2.12.2.1 Conduct field assessments of emergency response operations and organizations against NBC threats.

C.3.2.12.2.2 Conduct field assessments of emergency response equipment against NBC threats

C.3.2.12.2.3 Conduct field assessments of infrastructure and facilities against NBC threats

C.3.2.12.2.4 Perform field tests of operations, organizations, equipment and infrastructure against NBC threats using simulants, simulations or modeling.

C.3.2.12.2.5 Perform technical (laboratory) tests of equipment using live agents or simulants.

C.3.2.12.3 Data Analysis and Information Technology. The contractor shall:

C.3.2.12.3.1 Develop computer models/simulations of NBC incident response exercises.

C.3.2.12.3.2 Perform statistical analysis and data reduction of test results.

C.3.2.12.3.3 Develop specialized computer software, models, simulations, databases.

C.3.2.12.3.4 Develop, input and operate financial accounting and tracking systems for managing multiple projects by task or by customer site.

C.3.2.12.3.5 Perform literature searches and Internet searches.

C.3.2.12.4 HLDBU Administrative Support. The Contractor shall:

C.3.2.12.4.1 Coordinate and facilitate meetings involving multiple federal state and local agencies.

C.3.2.12.4.2 Prepare meeting minutes and after action reports.

C.3.2.12.4.3 Reproduce electronic media in various transportable formats ZIP, CDROM, DVD.

C.3.2.12.4.4 Develop layouts and “camera ready” masters of documents in black and white and color.

C.3.2.12.4.5 Produce presentations and briefings in poster, electronic, 35mm slide and viewgraph formats
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C.3.2.12.4.6 Set-up and operate audio-visual presentation equipment including, but not limited to LCD projectors and wireless microphone/loudspeaker systems.

C.3.2.12.5 HLDBU Strategic Planning. The contractor shall:

C.3.2.12.5.1 Provide expert technical assistance to remedy deficiencies in doctrine, training, organizations, equipment, and infrastructure.

C.3.2.12.5.2 Provide expert technical assistance to improve doctrine, training, organization, equipment and infrastructure.

C.3.2.12.5.3 Perform market research for development of high-potential customers.

C.3.2.12.5.4 Develop and produce marketing materials such as brochures, videos, electronic presentations, CD-ROMs, information kiosks.

C.3.2.12.5.5 Develop business and strategic plans for HDBU efforts.

C.3.2.12.5.6 Prepare grant packages or proposals for communities or other federal agency programs.

C.3.2.12.5.7 Assess management effectiveness.

C.3.2.12.5.8 Assess workforce effectiveness.

C.3.2.12.6 HLDBU Logistic Support. The contractor shall:

C.3.2.12.6.1 Obtain storage space for equipment and supplies.

C.3.2.12.6.2 Control access and accountability of equipment and supplies.

C.3.2.12.6.3 Provide logistic support for equipment.

C.3.2.12.6.4 Provide logistic support to training and exercise teams at sites worldwide.

C.3.2.12.6.5 Provide maintenance for equipment or supplies.

C.3.2.12.7 HLDBU Technical Assistance. The contractor shall:

C.3.2.12.7.1 Provide instructors that are experts in NBC and emergency response.

C.3.2.12.7.2 Provide specialized technical services and personnel within 24 hours to support special missions.

C.3.2.12.7.3 Provide information services or referrals (Help Line) on technical matters related to NBC incident response.

C.3.2.12.7.4 Provide technical staffing for Operations Center continuous operations.

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